



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/561,254

12/19/2005

Hiroshi Sekine

18733-00210

6492

26116

7590

01/29/2009

SIDLEY AUSTIN LLP
717 NORTH HARWOOD
SUITE 3400
DALLAS, TX 75201

EXAMINER

PILKINGTON, JAMES

ART UNIT

PAPER NUMBER

3656

MAIL DATE

DELIVERY MODE

01/29/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/561,254	Applicant(s) SEKINE ET AL.	
	Examiner JAMES PILKINGTON	Art Unit 3656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 7, 8, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Myers, USP 5,725,431.

Myers discloses a universal joint, comprising:

- An input shaft (driving shaft C4/L28-48)
- A pair of yoke arms provide for said input shaft (houses cap 20, C4/L28-48)
- An output shaft (driven shaft C4/L28-48)
- A pair of yoke arms provide for said output shaft (houses cap 20, C4/L28-48)
- a cross member (11) having four spider arms (12), configured in a cross pattern (see figure 1);
- two bearings (21) provided between the tip parts of two of said four spider arms (12), which are disposed oppositely to each other and the two yoke arms of the input shaft;

Art Unit: 3656

- two bearings (21) provided between the tip parts of the other two of said four spider arms (12), which are disposed oppositely to each other and the two yoke arms of said output shaft
- wherein said universal joint further includes a resistance applying mechanism (16) that generates the maximum resistance load in an oscillating movement of each of said two spider arms when axes of said two spider arms are included in a plane that includes the axes of both of said input and output shafts
- wherein said resistance applying mechanism is configured so that at least one of said bearings has a resistance load that varies in accordance with an oscillating angle (based on the thrust load at that angle)
- wherein said resistance applying mechanism is provided at both of said input shaft and output shaft sides (see Figure 1)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 4 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Myers, USP 5,725,431, in view of McElwain, USP 4,067,626.

Myers discloses all of the claim limitations as applied above.

Myers does not disclose that the yoke includes substantially oval yoke hole and a substantially oval tip part of said spider arm, wherein a bearing cup is press-fit in said substantially oval yoke hole and a plurality of needles are provided between the inner surface of this bearing cup and said substantially oval tip part of said spider arm.

McElwain teaches a yoke that includes substantially oval yoke hole (26, see Figure 3) and a substantially oval tip part of said spider arm (16), wherein a bearing cup (24) is press-fit in said substantially oval yoke hole (26) and a plurality of needles (20) are provided between the inner surface of this bearing cup (24) and said substantially oval tip part of said spider arm (16) for the purpose of dissipating the load on the needles to prolong the operation life of the joint (C1/L33-38).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Myers and provide a yoke that includes substantially oval yoke hole and a substantially oval tip part of said spider arm, wherein a bearing cup is press-fit in said substantially oval yoke hole and a plurality of needles are provided between the inner surface of this bearing cup and said substantially oval tip part of said spider arm, as taught by McElwain, for the purpose of dissipating the load on the needles to prolong the operation life of the joint.

5. Claims 5, 6, 15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Myers, USP 5,725,431, in view of Kuroumaru, JP 2002-059851.

Myers discloses all of the claim limitations as applied above. Myers also discloses a bearing cup (20a) pressed into a circular yoke hole (c4/l28-48) that the

Art Unit: 3656

bearing cup (20a) includes a plurality of needles (21) provided between the inner surface of said bearing cup (20a) and a tip part of said spider arm (12).

Myers does not disclose that the resistance applying mechanism includes a cam surface at the end of the spider arm and a projection in the bearing cup.

Kuroumaru teaches a cam lock/resistance device which comprises a cam surface (28) on the end of one relatively rotating member and a projection (21) on another relatively rotating member for the purpose of increasing the frictional force between the two relatively moving members to provide a resistance/lock against movement (see page 1 of translation).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Myers and the resistance applying mechanism includes a cam surface at the end of the spider arm and a projection in the bearing cup, as taught by Kuroumaru, for the purpose of increasing the frictional force between the two relatively moving members to provide a resistance/lock against movement.

6. Claims 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Myers, USP 5,725,431, in view of Moriyama, USP 5,580,314.

Myers discloses all of the claim limitations as applied above.

Myers does not disclose that the universal joint is connected to a steering column and a steering mechanism, that two universal joints and an intermediate shaft connect the input and output shafts, wherein both of said two universal joints have crossing angles that are substantially equal.

Moriyama teaches two universal joints (7 and 9) connected to a steering column (3) and a steering mechanism (connected to 10) and an intermediate shaft (8), wherein both of said two universal joints (7 and 9) having crossing angles that are substantially equal.

Since both Moriyama disclose systems using universal joints, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the universal joint of Myers in the steering assembly of Moriyama to achieve the predictable result of making a steering assembly which has a universal joint which minimizes the amount of flex effort or torque for a given preload to prevent vibration (Myers, C3/L1-12).

Double Patenting

7. Claims 16 and 17 are objected to under 37 CFR 1.75 as being a substantial duplicate of claims 1 and 3. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Response to Arguments

8. Applicant's arguments filed 11/20/08 have been fully considered but they are not persuasive.

9. The Applicant argues that Myers does not teach nor disclose “a resistance applying mechanism adapted to generate the maximum resistance load in an oscillating movement of each of said two spider arms...”

The Applicant is attempting to claim the "resistance applying mechanism" based on how it functions verses the actual structure disclosed in the application. A claim must differentiate from the prior art based on structure and not function, MPEP 2114. A prior art reference must also only be capable of performing the recited function and in the case of Myers the device is indeed capable of performing the recited function since there is allows an applied resistance load at some rotational arrangement of the spider arm in the bearing cap there will be a maximum value even if only slightly higher. What structure adapts the device for this feature?

10. Re clms 3-4 and 9-14 the Applicant argues that since Myers does not anticipate claim 1, as argued above, the Examiner has failed to make a *prima facie* case of obviousness with the McElwain and Moriyama references.

As noted above, Myers does indeed anticipate the structural limitations of claim 1 and therefore a *prima facie* case has been established for claims 3-4 and 9-14.

11. Applicant's arguments with respect to claims 5, 6, 15 and 18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 3656

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Pilkington whose telephone number is 571-272-5052. The examiner can normally be reached on Monday-Friday, 7AM-3PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached at 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3656

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JAMES PILKINGTON/

Examiner, Art Unit 3656

1/23/09

/Richard WL Ridley/

Supervisory Patent Examiner, Art Unit 3656